



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/781,975	02/14/2001	Samuel Dacke Harkness IV	146712001300	9533
25227	7590	10/01/2003	EXAMINER	
MORRISON & FOERSTER LLP 1650 TYSONS BOULEVARD SUITE 300 MCLEAN, VA 22102			UHLIR, NIKOLAS J	
			ART UNIT	PAPER NUMBER
			1773	

DATE MAILED: 10/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

09/781,975

Applicant(s)

HARKNESS ET AL.

Examiner

Nikolas J. Uhler

Art Unit

1773

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 08 September 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☒ Applicant's reply has overcome the following rejection(s): The 112 1st paragraph rejection of claims 1-2, 6-12, and 16-20.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See attached shhet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: none.Claim(s) objected to: none.Claim(s) rejected: 1,2,6-12 and 16-20.Claim(s) withdrawn from consideration: none.

8. ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
10. ☐ Other: _____

R sponse to Request for Reconsideration

1. The applicant's request for reconsideration dated 9/08/03 has been considered but does not place the application in condition for allowance. With respect to the rejection of the pending claims as set forth in paper #13, the applicant argues that the examiner misunderstood the applicants prior argument, in that the examiner has not established that there is suggestion or motivation in the prior art to combine an oxidized seedlayer with a non-oxidized underlayer. Further, the applicant argues that the examiner's contention that the applicant's unexpected results are not persuasive because the applicant has not compared the closest prior art to that of the instant invention is erroneous, as the examiner states that the closest prior art is that of the combination of Tanahashi with Bertero and Suzuki, which is clearly a violation of the provisions of In Re Chapman, 357 F.2d 418, 148 USPQ 711 (CCPA 1966).

2. With respect to the applicants arguments relating to the motivation to combine an oxidized seedlayer with a non-oxidized underlayer. The examiner maintains that there is clear motivation in the cited prior art to form a structure that is substantially identical to that of the applicant's claimed invention, namely an oxidized seedlayer with a non-oxidized underlayer. Tanahashi teaches a recording medium having a Cr seedlayer, CrMO underlayer, CoCr HCP layer, and Co based magnetic layer formed in that order from a substrate, as set forth in paper #8. Suzuki as set forth in paper #8 clearly teaches that adding 1-30 atomic % Ti and 0.1-10 atomic % O to a Cr layer in magnetic recording medium reduces the grain size and noise of the medium. Further, Bertero as set forth in paper #8 teaches that reducing the grain size of underlayers in a recording

Art Unit: 1773

medium reduces the grain size of layers grown over these underlayers, thus reducing noise. Thus, the examiner maintains that there is clear motivation to add 1-30 atomic % Ti and 0.1-10 atomic % O as taught by Suzuki to the Cr seedlayer of Tanahashi.

Specifically, the motivation is to reduce the grain size of the seedlayer, thereby reducing the grain size of layers subsequently deposited over the seedlayer, which the prior art *explicitly* teaches results in the medium exhibiting reduced noise. Thus, this argument is unpersuasive.

3. Regarding the applicant's argument towards the examiner's interpretation of the applicant's argued unexpected results and the violation of In Re Chapman. The examiner hereby withdraws his previous arguments with respect to the comparison of the instant invention to that of a combination of prior art references (a fictional prior art), as these arguments are clearly erroneous. However, the examiner maintains that the applicant's "unexpected results" are unpersuasive.

4. The applicants have argued that two unexpected results arise as a result of the instant invention. First, the applicant opines that the instant invention, which utilizes an oxidized seedlayer beneath a non-oxidized underlayer, results in the recording medium having reduced grain size as compared to a magnetic recording medium utilizing a non-oxidized seedlayer. The applicant in paper #12 cites table 1 of the instant specification as proof of this result. Further, the second unexpected result argued by the applicant is the fact that the instant invention exhibits improved corrosion resistance over that of a recording medium utilizing a non-oxidized seedlayer. The applicant cites page 18, lines 4-9 of the instant specification as support for this argument.

Art Unit: 1773

5. Regarding the reduction in grain size. While the examiner agrees the applicant in table 1 shows that the grain size of a recording medium utilizing an oxidized seedlayer is smaller than that of a medium utilizing a non-oxidized seedlayer, this effect is not unexpected. This is clearly evident from the teachings of Suzuki and Bertero, as Suzuki clearly establishes that adding 0.1-10 atomic % O to a Cr underlayer reduces its grain size, and Bertero teaches that reducing the grain size of an underlayer in a magnetic recording medium will result in the layers grown above the underlayer to have reduced grain size. Thus, while the applicant's result appears to be valid, it is not considered by the examiner to be "unexpected" and is thus unpersuasive.

6. Regarding the applicant's argument with respect to the improved corrosion resistance resulting from the use of an oxidized seedlayer and a non-oxidized underlayer. The examiner does not refute that the applicant's invention may result in this effect. However, the applicant's rely on the sentences located at page 18, lines 4-9 of the specification to provide support for this argument. Page 18, lines 4-9 state:

"The non-oxidized underlayer could maintain a texture throughout the multilayer structure and yet prevent direct contact of the oxidized Cr-X seedlayer with the magnetic layer. If the oxidized Cr-X layer is near or in direct contact with the magnetic layer, there is a possibility that oxygen migration into the magnetic layer could be high enough to detract the recording performance."

7. These two sentences are not considered by the examiner to be sufficient to conclusively establish that the non-oxidized layer prevents oxygen diffusion into the magnetic layer. The examiner specifically points out that these sentences state, "If the oxidized Cr-X layer is **near** or in direct contact with the magnetic layer, there is a

Art Unit: 1773

possibility that oxygen migration into the magnetic layer **could** be high." The statement that "if the oxidized layer is **near** or in direct contact with the magnetic layer" is a statement shrouded in indefiniteness. What constitutes the oxidized layer being "near" the magnetic layer? This statement clearly implies that if the non-oxidized layer is the cause of applicant's asserted improvement in corrosion resistance that there must be some minimum thickness of this layer required to ensure that the non-oxidized layer is not "near" enough to the magnetic layer to allow oxygen to diffuse from the oxidized seedlayer to the magnetic layer. However, no such thickness is required by the instant claims or cited in the support given by the applicant.


8. Further, the language, "there is a **possibility** that the oxygen migration into the magnetic layer could be **high**" is also highly ambiguous. If there is only a **possibility** that a large amount of oxygen from the oxidized seedlayer **could** migrate into the magnetic layer, it is equally possible that little or no oxygen from the oxidized seedlayer could migrate into the magnetic layer, even if the non-oxidized underlayer were not present. If oxygen migration doesn't occur, how can the applicant then assert that this migration is prevented by the presence of the non-oxidized underlayer? Further, how can the result then be classified as "unexpected?" The examiner has contemplated this fact in great detail, and respectfully suggests the applicant consider if there the seedlayer must be composed of some minimum amount of oxygen before the migration will **necessarily** occur.

9. Thus, given the highly ambiguous nature of the applicant's support for the claimed "unexpected" improvement in corrosion resistance, the examiner does not

Art Unit: 1773

consider the applicant's argument persuasive, as it has not been established on the record what thickness, concentrations, and other variables are required so as to attain the asserted result. Further, there is no data presented which supports the asserted improvement in corrosion resistance. It is noted however, that even if such a showing were made, it would not be commensurate in scope with the instant claims, and thus would still remain unpersuasive until the claims were amended to contain these critical limitations.

10. Therefore, the rejection of claims 1-2, 6-12 and 16-20 are maintained as set forth in paper #8.


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700